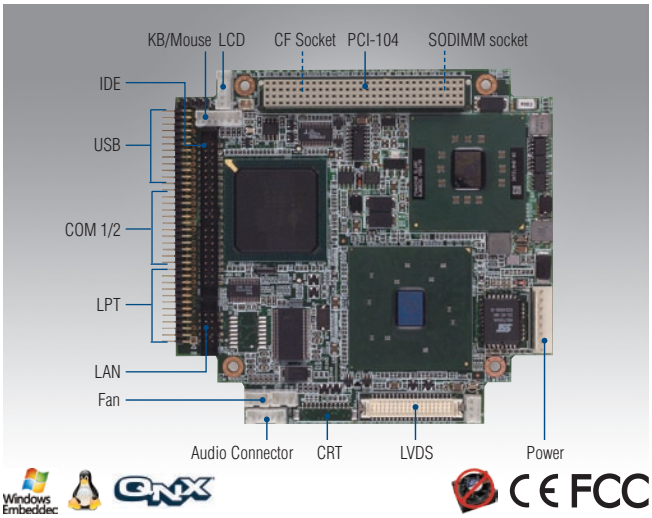
PCM-3380

Intel® Pentium® M PCI-104 CPU Module



Features

- Intel® Pentium® M Processor 1.1 GHz/1.4 GHz/1.6 GHz or Celeron® M 600 MHz
- Intel 855GME/ICH4 Chipset
- Supports 36-bit LVDS (48-bit LVDS optional)/ VGAS
- Supports six USB 2.0 ports
- Supports Embedded Software API and Utility

Software APIs: SMBus, H/W Monitor, Brightness, Watchdog, GPIO, Backlight On/Off

Utility: BIOS flash, Monitoring

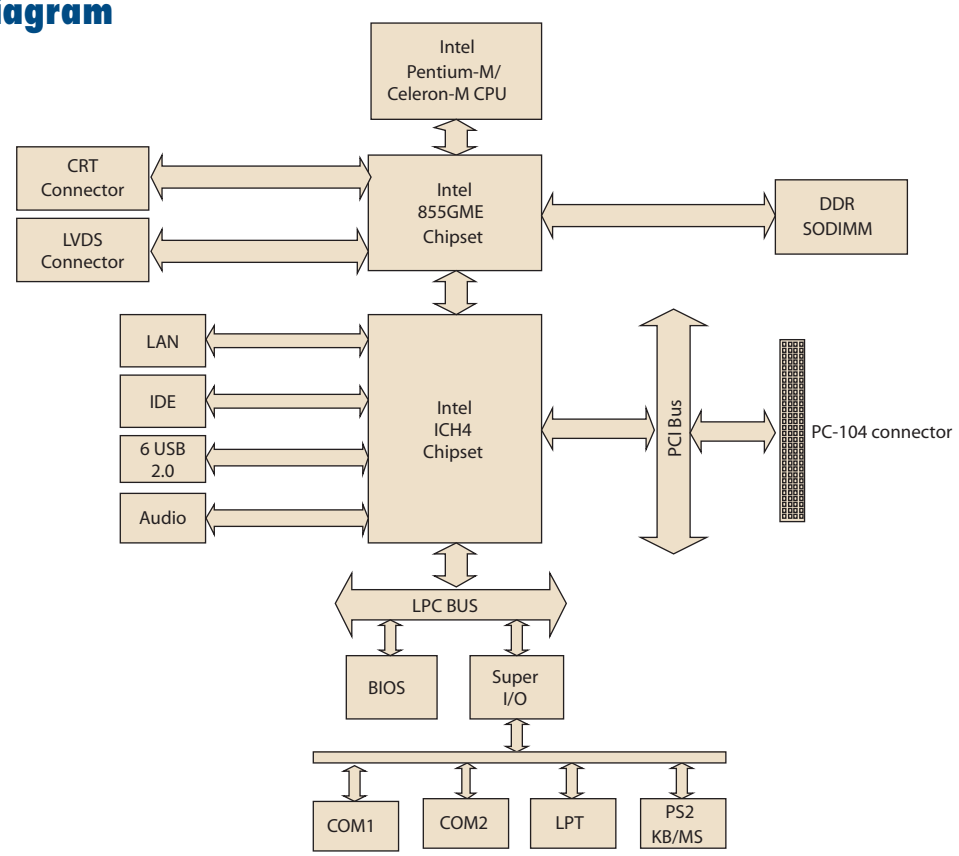
Specifications

Processor System	CPU	Intel Celeron M 600 MHz	Intel Pentium M 1.1 GHz	Intel Pentium M 1.4 GHz	Intel Pentium M 1.6 GHz
	Front Side Bus	400 MHz	400 MHz	400 MHz	400 MHz
	L2 Cache	512 KB	1 MB	2 MB	1 MB
	Chipset	Intel 855GME + ICH4	Intel 855GME + ICH4	Intel 855GME + ICH4	Intel 855GME + ICH4
	BIOS	Award 4 Mbit	Award 4 Mbit	Award 4 Mbit	Award 4 Mbit
Memory	Technology	DDR 200/266/333 MHz			
	Max. Capacity	1 GB			
	Socket	1 x 200-pin SODIMM			
SSD	CompactFlash	Card Type I, Type II (option for Micro Drive)			
I/O Interface	LPT	1 (share with FDD)			
	FDD	1 (share with LPT)			
	RS-232	2			
	RS-232/422/485	-			
	K/B	1			
	Mouse	1			
	USB	6 x USB 2.0, EHCI/UHCI compliant			
	Audio	AC97, Line-in, Line-out, Mic-in			
EIDE	Mode	UDMA 33			
	Channel	1			
Expansion Slot	PCI-104	1			
Ethernet	Speed	10/100 Mbps			
	Controller	Intel 82562EM			
	Interface	1 x RJ-45 by cable			
Display	Controller	Intel 855GME/GMCH			
	VRAM	Optimized Shared Memory Architecture up to 32 MB system memory			
	LVDS LCD	1 x 36-bit LVDS (1 x 48-bit optional) LCD Panel 16:9 wide screen panel supported			
	Dual Independent Display	CRT + LVDS			
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)			
	Operating Humidity	0% ~ 90% relative humidity, non-condensing			
Power	Power Type	ATX			
	Power Supply Voltage	+5 V ± 5%, ±12 V ± 5%			
	Power Consumption: Typical (WinXP Idle Mode)	+5 V @ 1.80 A (Celeron M 600 MHz), +5 V @ 2.30 A (Pentium M 1.1 GHz), +5 V @ 2.64 A (Pentium M 1.4 GHz)			
	Power Consumption: Max, Test in HCT	+5 V @ 2.16 A (Celeron M 600 MHz), +5 V @ 3.68 A (Pentium M 1.1 GHz), +5 V @ 3.10 A (Pentium M 1.4 GHz)			
	Power Management	APM, ACPI			
	Battery	Lithium 3V / 210 mAH			
Watchdog Timer	Output	System reset			
	Interval	Programmable 1 ~ 255 sec			
Physical Characteristics	Dimensions (L x W)	108 x 115 mm (4.3" x 4.5")			
	Weight	0.279 kg (0.62 lb) (with heat-sink)			

All product specifications are subject to change without notice

Last updated : 09-Nov-2009

Board Diagram



Ordering Information

Part No.	CPU	L2 Cache	Chipset	CRT	LVDS	LAN	USB2.0	RS-232	LPT	CF	KB/MS	PCI-104 connector	Thermal Solution	Operating Temp.
PCM-3380F-S4A2E	LV Pentium M 1.4 GHz	2 MB	855 GME	Yes	36-bit	1 FE	6	2	Yes	Yes	Yes	Yes	Passive	0 ~ 60° C
PCM-3380F-S1A2E	Pentium M 1.6 GHz	1 MB	855 GME	Yes	36-bit	1 FE	6	2	Yes	Yes	Yes	Yes	Active	0 ~ 60° C
PCM-3380F-S0A2E	LV Pentium M 1.1 GHz	1 MB	855 GME	Yes	36-bit	1 FE	6	2	Yes	Yes	Yes	Yes	Passive	0 ~ 60° C
PCM-3380F-M0A2E	ULV Celeron M 600 MHz	512 KB	855 GME	Yes	36-bit	1 FE	6	2	Yes	Yes	Yes	Yes	Passive	0 ~ 60° C
	LV Pentium M 1.1 GHz	1 MB	855GME	Yes	36-bit	1 FE	6	2	Yes	Yes	Yes	Yes	Passive	-20 ~ 80° C
	ULV Celeron M 600 MHz	512 KB	855GME	Yes	36-bit	1 FE	6	2	Yes	Yes	Yes	Yes	Passive	-20 ~ 80° C

Note: For wide temperature, please contact sales rep.

Packing List

Part No.	Description	Quantity
	PCM-3380 SBC	1
1703060053	Y-Cable external cable	1
1701440350	IDE 44P/44P/44P cable 35 cm	1
1703200380	Wire ATX power	1
1701100202	Ethernet RJ-45 Conn.conversion cable	1
1700060202	KB / MOUSE Y-cable	1
1701200220	COM port cable	1
1700000897	USB Cable	1
1700000898	VGA cable	1
1700000916	LPT port cable	1
1701440504	44-pin to 40/44pin IDE cable	1
1700000918	Audio cable (Line-in, Line-out, Mic-in)	1

Value-Added Software Services

Software API: An interface that defines the ways by which an application program may request services from libraries and/or operating systems. Provides not only the underlying drivers required but also a rich set of user-friendly, intelligent and integrated interfaces, which speeds development, enhances security and offers add-on value for Advantech platforms. It plays the role of catalyst between developer and solution, and makes Advantech embedded platforms easier and simpler to adopt and operate with customer applications.

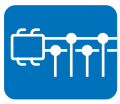
Software APIs

Control



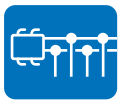
GPIO

General Purpose Input/Output is a flexible parallel interface that allows a variety of custom connections. It allows users to monitor the level of signal input or set the output status to switch on/off a device. Our API also provides Programmable GPIO, which allows developers to dynamically set the GPIO input or output status.



SMBus

SMBus is the System Management Bus defined by Intel® Corporation in 1995. It is used in personal computers and servers for low-speed system management communications. The SMBus API allows a developer to interface a embedded system environment and transfer serial messages using the SMBus protocols, allowing multiple simultaneous device control.



I²C

I²C is a bi-directional two wire bus that was developed by Philips for use in their televisions in the 1980s. The I²C API allows a developer to interface with an embedded system environment and transfer serial messages using the I²C protocols, allowing multiple simultaneous device control.

Monitor



Watchdog

A watchdog timer (WDT) is a device that performs a specific operation after a certain period of time if something goes wrong and the system does not recover on its own. A watchdog timer can be programmed to perform a warm boot (restarting the system) after a certain number of seconds.



Hardware Monitor

The Hardware Monitor (HWM) API is a system health supervision API that inspects certain condition indexes, such as fan speed, temperature and voltage.



Hardware Control

The Hardware Control API allows developers to set the PWM (Pulse Width Modulation) value to adjust fan speed or other devices; it can also be used to adjust the LCD brightness.

Display



Brightness Control

The Brightness Control API allows a developer to interface with an embedded device to easily control brightness.



Backlight

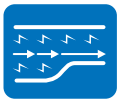
The Backlight API allows a developer to control the backlight (screen) on/off in an embedded device.

Power Saving



CPU Speed

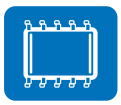
Make use of Intel SpeedStep technology to reduce power power consumption. The system will automatically adjust the CPU Speed depending on system loading.



System Throttling

Refers to a series of methods for reducing power consumption in computers by lowering the clock frequency. These APIs allow the user to lower the clock from 87.5% to 12.5%.

Software Utilities



BIOS Flash

The BIOS Flash utility allows customers to update the flash ROM BIOS version, or use it to back up current BIOS by copying it from the flash chip to a file on customers' disk. The BIOS Flash utility also provides a command line version and API for fast implementation into customized applications.



Embedded Security ID

The embedded application is the most important property of a system integrator. It contains valuable intellectual property, design knowledge and innovation, but it is easily copied! The Embedded Security ID utility provides reliable security functions for customers to secure their application data within embedded BIOS.



Monitoring

The Monitoring utility allows the customer to monitor system health, including voltage, CPU and system temperature and fan speed. These items are important to a device; if critical errors happen and are not solved immediately, permanent damage may be caused.



eSOS

The eSOS is a small OS stored in BIOS ROM. It will boot up in case of a main OS crash. It will diagnose the hardware status, and then send an e-mail to a designated administrator. The eSOS also provides remote connection: Telnet server and FTP server, allowing the administrator to rescue the system.



Flash Lock

Flash Lock is a mechanism that binds the board and CF card (SQFlash) together. The user can "Lock" SQFlash via the Flash Lock function and "Unlock" it via BIOS while booting. A locked SQFlash cannot be read by any card reader or boot from other platforms without a BIOS with the "Unlock" feature.

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Last updated : 09-Nov-2009